

Appln. S.N. 10/699,456
Prelim. Amdt. dated November 10, 2006 for RCE
Docket No. 100200584-1

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REMARKS

Entry of this Preliminary Amendment before continued examination of the instant application is respectfully requested. Upon entry of this Amendment, claims 1-20, 48, 49 and 65-67 remain in the application. New claims 68-71 have been added in order to set forth additional specific embodiments of Applicants' invention. Support for new claims 68-71 may be found throughout the specification as filed, at least at page 10, lines 8-9 and lines 29-31; page 9, lines 7-16; page 8, lines 26-32; page 10, lines 10-11; and page 11, lines 15-29. Reconsideration of the claims is respectfully requested.

Applicants note the Examiner's constructive election of claims 1-20, 48 and 49. Applicants have marked claims 65-67 as being withdrawn.

Applicants have revised the specification in order to correct an inadvertent error in wording. The specification as filed at page 7, lines 28-29 stated in part, "by patterning the nanowires 14...." Applicants have amended this sentence to recite in part, "by patterning the liquid 16 having nanowires 14 therein...." Support for this recitation may be found throughout the specification as filed, at least at page 7, lines 12-24.

Claims 1-20, 48 and 49 stood rejected (in the Final Office Action of September 12, 2006) under 35 USC 102(e) as being anticipated by Wang et al. (US Patent No. 2005/0053826). The Examiner states that Wang discloses a fuel cell having a substrate (e.g., an electrolyte), and a patterned platinum alloy thin film catalyst deposited throughout a film that also includes carbon nanotubes. The Examiner specifically references Fig. 12 of the Wang reference to illustrate that the thin film may be configured within a preferred three-layered structure with an optimized porosity and thickness. The Examiner also points out that the Wang reference discloses that nanoparticles may have any morphology.

Applicants respectfully disagree with the Examiner's assertion that Wang discloses a "patterned platinum alloy thin film." Contrary to the Examiner's suggestion in her response to Applicants' previous arguments, Applicants have not defined "patterned" as "a predetermined configuration depending on the end use." Instead, Applicants stated that, "It is to be understood that the homogeneous suspension 18 **may be patterned into a** predetermined configuration depending on the desired end use." (Emphasis added, see the

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specification as filed at page 7, lines 26-28). In the specification as filed at page 7, lines 12-30, Applicants explain that the patterning (i.e., imaging) process includes selectively exposing the liquid having nanowires therein, so that soluble material and associated nanowires are washed away and insoluble material remains for subsequent processing.

Applicants have not changed the usual definition of patterning as is known to those skilled in the art. Rather, the Applicants are explaining that the patterning process may be performed to obtain a desirable patterned film. The Applicants' description of patterning is consistent with definitions of patterning that are readily available. Examples of readily available definitions of the word "patterning" include the following: "process where a specific design is projected onto a surface" (see, e.g., www.minifab.com.au/resources/glossary.htm), or "creating an image in a photoresist layer" (see, e.g., www.icknowledge.com/glossary/p.html).

It is respectfully submitted that the Examiner has misinterpreted the meaning of patterned as Applicants are using it to describe the patterned film of claim 1.

The Examiner suggests that the thin nanowire-containing film included in a stack of materials (Fig. 12 of the Wang reference, which does not, in fact, depict a patterned film) is equivalent to a patterned film. However, Wang does not teach or suggest that the thin film itself is patterned, as the term is used by those skilled in the art, and as used by the Applicants. Wang teaches that the film is "applied to the nanoparticles" via methods which include electro-depositing the thin film on the nanoparticles, spraying the nanoparticles with the thin film, conventional semiconductor processes (e.g., sputtering, chemical vapor deposition (CVD), molecular beam epitaxy (MBE), plasma-assisted vapor deposition, etc.), and exposing the nanoparticles to a solvent and allowing the solvent to evaporate (see paragraph [0062]). None of these methods support the Examiner's conclusion that the thin film is patterned.

The Examiner also suggests that choosing the morphology of the nanoparticles in the film is equivalent to a patterned film. As previously described, patterning (as the term is used by the Applicants) is known by one skilled in the art to be a process for projecting a specific design on a surface, or is creating an image in a photoresist layer. Wang's

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teaching that the morphology of the nanoparticles in the film may be selected as desired is not the same as using a patterned film.

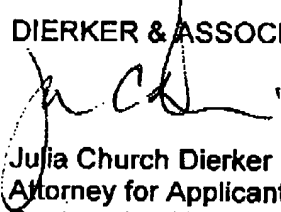
Wang clearly does not teach a patterned film, as the term is used by the Applicants and as known to those having skill in the relevant art. As such, it is submitted that Applicants' invention as defined in independent claims 1, 48, 49, and those claims depending therefrom is not anticipated, taught or rendered obvious by Wang, either alone or in combination, and patentably defines over the art of record.

In summary, claims 1-20, 48, 49, and 65-67 remain in the application. New claims 68-71 have been added. It is submitted that, through this amendment, Applicants' invention as set forth in these claims is now in a condition suitable for allowance.

Further and favorable consideration is requested. If the Examiner believes it would expedite prosecution of the above-identified application, she is cordially invited to contact Applicants' Attorney at the below-listed telephone number.

Respectfully submitted,

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